

ABSTRACT OF THE DISCLOSURE

A lithium secondary battery including a positive electrode which is capable of occluding and releasing lithium, a negative electrode which is capable of occluding and releasing lithium, a separator between the positive electrode and the negative electrode, and a nonaqueous electrolyte comprising a nonaqueous solvent and a wettability improving agent. The nonaqueous solvent does not substantially wet the separator, and the wettability improving agent is dissolved in the nonaqueous solvent, improves the wettability of the nonaqueous solvent to the separator, and has an oxidative decomposition potential in a range of 4.5 V to 6.2 V.